Nakamura sues Nichia

Shuji Nakamura - who has been a professor at University of California at Santa Barbara since February 2000 - is suing former employer **Nichia Corp** (Tokyo, Japan) in the Tokyo District Court. He is claiming ¥2bn in damages for failure to properly compensate him for his work, which included developing a high-brightness blue GaN LED and obtaining about 100 patents.

Shuji Nakamura, who is suing former employer Nichia.

Nichia commercialized a blue LED in 1993 and is estimated to have earned more than ¥150bn from sales.

Nakamura argues that patents covering a basic production method for blue LEDs was indispensable to commercialization. Based on a clause in Japanese Patent Law which says researchers should get "fair compensation" for inventions created at work, he says payments of ¥10,000 received when he lodged patents and again when the patents were granted are insufficient. He has focused on one patent concerning CVD for which he claims to have received US$170 from Nichia to transfer the rights.

Nakamura is also concerned that Nichia has not licensed the technology to other manufacturers. Nichia filed a lawsuit in the USA at the end of 2000 against Nakamura, accusing him of disclosing company secrets to other firms. Nichia has previously filed lawsuits against Toyoda Gosei Co, Rohm Co and Cree concerning blue LED-related patents.

* Nakumura has been named the first recipient of the *Cree Chair* at UCSB's Center for Solid State Lighting and Displays. In September 2000 Cree pledged US$1.2m to UCSB's College of Engineering toward the endowment of the Cree Chair and to support GaN-based research.

Uniroyal partners educational institutions for UV LEDs

Uniroyal Technology Corp subsidiary **Uniroyal Optoelectronics** (UOE, which is nearing completion of its R&D facility) has announced a long-term collaborative project to accelerate development of UV LEDs for white light LEDs.

"UV Florida" is funded by part of the potential US$3.6m State of Florida R&D incentive program available to UOE. The collaborative project also includes three of Florida's leading research universities:

- University of Florida (focusing on epi growth and processing);
- University of South Florida (structural measurement); and
- University of Central Florida (electrical and optical characterization).

"It is similar to the partnerships that Hewlett Packard, Fairchild and Intel had with Stanford University when Silicon Valley was spawned and the partnerships that Polaroid, Digital Equipment and IBM had with MIT creating the Route 128 phenomenon," said Michael G Kovac, University of South Florida Director of High Tech Partnerships and former Dean of Engineering. "Because of this partnership, we have attracted several nationally known researchers to our faculty this year."

The initial goal will be the development of ultra-violet AlGaInN-based LEDs (emitting at wavelengths spanning 350-400 nm). When packaged with a tri-coloured phosphor, these generate a brighter, purer and more efficient white LED (>2 mW) than current blue LED with yellow phosphor.

NCSU licenses pendeo to Cree

North Carolina State University has granted **Cree Inc** (Durham, NC, USA) an exclusive license to US Patent No. 6,265,289 (*"Methods of Fabricating Gallium Nitride (GaN) semiconductor Layers by Lateral Growth from Sidewalls into Trenches, and Gallium Nitride Semi-conductor Structures Fabricated Thereby"*), which covers pendeo-epitaxy technology for growing GaN layers with low defect densities.

Cree's president and CEO Chuck Swoboda said growing low-defect layers of GaN is essential to the realization of long-lifetime GaN-based lasers and other high-performance devices. The patented covers use of on any substrate.

* The **Cree Asia-Pacific Inc** subsidiary of Cree has opened a South-East Asian sales office in Kowloon, Hong Kong , covering Hong Kong, mainland China, Taiwan, Malaysia and Singapore.

UEC settles lawsuit - licenses Lumileds' T/S LED patents

The pending litigation centred on US Patent No 5,008,718 (relating to the use of a window layer to enhance light extraction from AlInGaP LEDs) between former owners **Hewlett-Packard** and **Agilent Technologies** (a spin-off from HP), current owners **Lumileds Lighting** (San Jose, CA, USA) - a joint venture between Agilent and Philips Lighting - and **United Epitaxy Company Ltd** (Hsinchu, Taiwan) has been settled and all claims and counterclaims dismissed.

In July 2000 HP, Agilent and LumiLeds filed a lawsuit in the Federal District Court in Oakland, CA, USA claiming infringement of the patent by UEC's AlInGaP products, seeking monetary damages and a permanent injunction prohibiting the importation, sale, or offer to sell UEC's "infringing" AlInGaP LED products in the USA.

A previous lawsuit by HP vs UEC's US distributor, **Robert G Allen Company Inc**, concluded in February 1999 with the entry of a Consent Judgment in which RGA acknowledged that the patent is valid and infringed by UEC's LEDs, and agreed to stop importing, selling or offering to sell the devices.

Lumileds has also granted UEC a license under several patents in exchange for a license fee and royalties. "If Lumileds desires to outsource absorbing substrate AlInGaP production in the future, we would consider using UEC as a supplier," said Lumileds' CEO Mike Holt.

UEC chairman Dr Kuo-Hsin Huang said "We're also happy that as part of the settlement, Lumileds has agreed to consider partnering with UEC as a contract manufacturer for certain Lumileds products. UEC will benefit in the expanding LED market from this patent license and a possible business partnership."